

DANIEL OCASIO

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8136 Windmill Court
Severn, MD 21144

EDUCATION

BS – Chemical Engineering

August 2013 – May 2017

University of Maryland, Baltimore County
Honors College
Certificate in Spanish Studies
4.0 GPA

RESEARCH EXPERIENCE

University of Maryland, Baltimore County

January 2015 – Present

Department of Chemical, Biochemical and Environmental Engineering

Advisor: Lee Blaney, PhD

Undergraduate Researcher

- Project: Study of the photolytic reaction kinetics of pharmaceuticals and personal care products in environmentally relevant matrices for applications in wastewater treatment
- Skills: HPLC-MS/MS; UV-Vis spectroscopy; chemical actinometry; UV reactors

University of California, Berkeley

June 2016 – August 2016

Department of Civil and Environmental Engineering

Advisor: David Sedlak, PhD

Re-Inventing the Nation's Urban Water Infrastructure REU Fellow

- Project: Modified Fenton in-situ chemical oxidation using calcium peroxide for stormwater treatment applications
- Skills: HPLC-MS/MS; nanoparticle synthesis; experimental design

California Institute of Technology

June 2015 – August 2015

Division of Environmental Science and Engineering

Advisor: Michael Hoffmann, PhD

WAVE Fellow

- Project: Development of a highly efficient, cost effective wastewater electrolysis cell for use in a photovoltaic-powered, self-sufficient toilet system
- Skills: SEM/EDS spectroscopy; ion chromatography; anode fabrication; cyclic voltammetry; COD, total/free chlorine, total nitrogen analyses

University of Michigan

May 2014 – August 2014

Department of Chemistry, Department of Physics

Advisor: Roseanne Sension, PhD

UM Chemistry REU

- Project: Photostability studies of B₁₂ vitamer hydroxocobalamin
- Skill: class IV laser safety trained certified; ultrafast transient absorption spectroscopy; UV-Vis spectroscopy; anaerobic sample preparation; LabVIEW; MATLAB

HONORS AND AWARDS

MARC U*STAR Trainee	2015 – Present
Howard Hughes Medical Institute Scholar	2015 – Present
Meyerhoff Scholars Program	2013 – Present
Barry M. Goldwater Scholarship	2016
Undergraduate Research Award	2016
Tau Beta Pi Association Scholarship	2015
SHPE National Conference Poster Presentation Awardee	2015
CNMS Symposium 2015 1 st Place Environmental Chemistry Presentation	2015
ABRCMS 2014 Chemistry Presentation Award Recipient	2014
FASEB/MARC Travel Award	2014
National Hispanic Recognition Program	2012

PRESENTATIONS

1. Ocasio, D.; Ray, J.; Sedlak, D. Modified Fenton in-situ chemical oxidation using calcium peroxide for stormwater treatment applications. Re-Inventing the Nation's Urban Water Infrastructure REU Symposium (Berkeley, CA), August 4, 2016.
2. Blaney, L.; Mangalgi, K.P.; Adejumo, H.A.; Ocasio, D.; He, K. Transformation of fluoroquinolone, tetracycline, and sulfonamide antibiotics at 253.7 nm: Generation of antimicrobially active transformation products. Gordon Research Conference (Holderness, NH), Poster Presentation, June 26, 2016.
3. Ocasio, D.; Mangalgi, K.; Blaney, L. Photokinetic Determination of Environmentally Relevant Pharmaceuticals for UV-Based Applications in Treatment Facilities. UMBC Undergraduate Research and Creative Achievement Day (Baltimore, MD), Poster Presentation, April 27, 2016.
4. Mangalgi, K.; Ocasio, D.; Adak, A.; Blaney, L. Role of dissolved organic matter on UV transformation of antibiotics in agriculture-impacted water. 38th UMBC Graduate Research Conference (Baltimore, MD), March 23, 2016.
5. Ocasio, D.; Yang, Y.; Naviaux, J.; Hoffmann, M. R. Development of a highly efficient, cost effective anode for chlorine evolution and wastewater treatment. 251st American Chemical Society Annual Meeting (San Diego, CA), March 17, 2016.
6. Mangalgi, K.P.; Adejumo, H.A.; Ocasio, D.; He, K.; Blaney, L. Transformation of fluoroquinolone, tetracycline, and sulfonamide antibiotics at 253.7 nm: Generation of antimicrobially active transformation products. 251st American Chemical Society Annual Meeting (San Diego, CA), March 14, 2016.
7. Ocasio, D.; Yang, Y.; Naviaux, J.; Hoffmann, M. R. Development of a highly efficient, cost effective anode for chlorine evolution and wastewater treatment. Society of Hispanic Professional Engineers National Conference (Baltimore, MD), Poster Presentation, November 5, 2015.
8. Mangalgi K.P.; Rogers, N; Dawkins, K.; Ocasio, D.; Blaney, L. Characterizing effects of advanced oxidation on dissolved organic matter in agriculturally-impacted surface water using PARAFAC. UMBC Research Forum (Baltimore, MD), Poster Presentation, October 30, 2015.

9. Ocasio, D.; Yang, Y.; Naviaux, J.; Hoffmann, M. R. Development of a highly efficient, cost effective anode for chlorine evolution and wastewater treatment. Undergraduate Research Symposium in the Chemical and Biological Sciences (Baltimore, MD), Poster Presentation, October 3, 2015.
10. Mangalgi K.P.; Ocasio, D.; Adak, A.; Blaney, L. Role of dissolved organic matter on UV transformation of antibiotics in agriculture-impacted water supplies. International Water Association Natural Organic Matter 6 Conference (Malmo Sweden), September 10, 2015.
11. Mangalgi, K.P.; Rogers, N; Dawkins, K.; Ocasio, D.; Blaney, L. Characterizing effects of advanced oxidation on dissolved organic matter in agriculturally-impacted surface water using PARAFAC. International Water Association Natural Organic Matter 6 Conference (Malmo Sweden), Poster Presentation, September 8, 2015
12. Ocasio, D.; Yang, Y.; Naviaux, J.; Hoffmann, M. R. Development of a highly efficient, cost effective anode for chlorine evolution and wastewater treatment. Cal Tech Summer Seminar Day (Pasadena, CA), August 20, 2015.
13. Ocasio, D.; Shepard, A.; Wiley, T.; Arruda, B.; Sension, R. Photostability studies of hydroxocobalamin. Annual Biomedical Research Conference for Minority Students (San Antonio, TX), Poster Presentation, November 13, 2014.
14. Ocasio, D.; Shepard, A.; Wiley, T.; Arruda, B.; Sension, R. Photostability studies of hydroxocobalamin. Notre Dame Summer Undergraduate Research Symposium (Notre Dame, IN), Poster Presentation, August 2, 2014.

EXTRACURRICULAR ACTIVITIES & PROFESSIONAL SOCIETIES

Tau Beta Pi Engineering Honor Society, Maryland Delta - Vice President	December 2014 – Present
Society of Hispanic Professional Engineers, UMBC - Founder, President	November 2014 – Present
American Chemical Society	September 2013 – Present
Hispanic/Latino Student Union	September 2013 – Present

COMMUNITY SERVICE

Achievement and Inspiration through Mentorship - Treasurer	May 2015 – Present
English as a second language tutor in Baltimore City	September 2014 – January 2015
NASA STEM youth mentoring program	September 2012 – May 2013